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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,244

06/25/2004

Shizuo Iwasaki

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07/19/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,244

Applicant(s)

IWASAKI, SHIZUO

Examiner

Steven D. Maki

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1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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1) Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See "conventional" example in Table 1. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2) Claims 1-3 and 6-9 are objected to because of the following informalities: In claim 1, "comprising: a wheel tread part is divided" should be --a wheel tread part being divided--. Appropriate correction is required.

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Claims 1-3 and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1-3 and 6-9 (e.g. claim 1, claim 3), it is unclear how "can be" (in contrast to --is--) affects the scope of the claim.

In claim 1, the relationship, if any, between the area subject matter at lines 8-9 of claim 1 and the area subject matter at lines 10-12 of claim 1 is unclear. Is the same area subject matter being described? Is the description at lines 8-9 redundant to

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or in addition to the requirement at lines 10-12? It appears that lines 8-9 should be deleted as being redundant to the limitation at lines 10-12.

In claim 9, it is unclear what has the width of 5-40% of the block width. Does "an end a of the center side region" have the width of 5-40% of the block width such that the boundary between the shoulder side region and the center side region cannot be at the center of the block? Alternatively, does "a shallow cut depth" have the width of 5-40% of the block width? In other words, the claimed width of the center side region and/or the shallow cut depth is ambiguous. In light of figure 4, it appears that a distance corresponding to t_2 is intended.

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan 220 (one end opening sipe)

7) **Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan 220 (JP 2000-255220).**

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Japan 220 discloses a pneumatic radial tire having a tread comprising a pair of shoulder block rows, a pair of central block rows, three circumferential grooves, and transverse grooves. See figure 1. The central blocks have one end opening sipes 7. The one end opening sipe 7 in the central block opens to the outer circumferential groove instead of the circumferential groove at the equatorial plane of the tire. The sipe 7 has a length L_s of 50-100% (e.g. 75%) block width L_a . Since the sipe 7 in the central block opens only to the outer circumferential groove, the rigidity of the center side region of the central block is higher than that in the shoulder side region of the central block.

The tire of claim 1 is anticipated by Japan 220. In any event, it would have been obvious to one of ordinary skill in the art to form the sipe 7 in the central blocks such that S_2 (sipe sectional area at shoulder side region) is 1.4 to 2.0 times S_1 (sipe sectional area at center side region) in view of Japan 220's teaching to locate a one end opening sipe 7 only at the shoulder side region of the central block such that sipe length L_s is 50-100% (e.g. 75%) of block width L_a to improve driving and braking performance and prevent damage such as chip and crack.

As to claim 2, Japan 220's tread has four block rows.

As to claim 6, sipe 7 is a one end opening sipe.

As to claim 7, the claimed width of the unopened part of the sipe being 5-15% of a block width would have been obvious and could have been determined without undue experimentation in view of Japan 220's teaching to locate an one end opening sipe only at the shoulder side region of the central block such that the length of the unopened part

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is 0-50% such as 25% (sipe length L_s is 50-100% such as 75% of block width L_a) to improve driving and braking performance and prevent damage such as chip and crack.

Japan 526 (one end opening sipe)

8) Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan 526 (JP 2000-185526).

Japan 526 discloses a pneumatic radial tire having a tread comprising blocks, circumferential grooves and transverse grooves. See figure 1. The blocks include one end opening sipes. The shoulder blocks include one end opening sipes 73. The intermediate blocks comprise one end opening sipes 72.

As to claim 1, the claimed tire is anticipated by Japan 526's tire. The claimed sipes read on sipes 72 and/or 73. The sipes 72,73 inherently cause the block to have a "shoulder side region" having a rigidity less than the rigidity of the "central side region". With respect to the ratio of $S2/S1$ being 1.4 to 2.0, claim 1 fails to specify the location (e.g. center of block) of the boundary between the center side region and shoulder side region and thereby fails to require a different tire than Japan 526. In any event: It would have been obvious to one of ordinary skill in the art to locate the sipes in the blocks such that $S2/S1$ is 1.4 to 2.0 since Japan 526 teaches providing the blocks with one end opening sipes such that the tire has good tire stability and good running performance.

As to claim 2, Japan 526's tread comprises four rows of blocks. Claim 2 does not require a longitudinal groove at the EP of the tire.

As to claim 6, Japan 526 teaches a one end opening sipe.

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As to claim 7, it would have been obvious to one of ordinary skill in the art to provide Japan 526's sipes 72, 73 such that the width of the unopened part is 5-15% of the block width since Japan 526 shows extending the one end opening sipes across most of the width of the block so as to leave an unopened part having a relatively small width.

Europe 397 (both end opening sipes)

9) **Claims 1-3 and 8-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Europe 397 (EP 333397).**

Europe 397 discloses a radial tire having the tread comprising blocks, circumferential grooves and lateral grooves. The shoulder blocks have both end opening sipes with varying depth. See figures 6, 9 and 10. The varying depth (difference in depth between portions S1 and S2) of the sipes causes the block to have a "shoulder side region" having a rigidity less than the rigidity of the "center side region".

As to claim 1, the claimed tire is anticipated by Europe 397's tire. With respect to the ratio of S2/S1 being 1.4 to 2.0, claim 1 fails to specify the location (e.g. center of block) of the boundary between the center side region and shoulder side region and thereby fails to require a different tire than Europe 397. In any event: It would have been obvious to one of ordinary skill in the art to locate the sipes in the blocks such that S2/S1 is 1.4 to 2.0 since Europe 397 teaches providing the blocks with sipes such that the center region side is more shallow than the shoulder region side to appropriately reduce rigidity of the blocks to thereby reduce wear in the shoulder regions and improve traction and braking forces.

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As to claim 2, Europe 397's tread comprises four rows of blocks. Claim 2 does not require a longitudinal groove at the EP of the tire.

As to claim 3, Europe 397 teaches the sipe being shallower at the center side region of the shoulder block.

As to claim 8, Europe 397's shoulder sipes are both end opening sipes.

Claim 9 does not appear to require the shallow cut depth to have the claimed width of 5-40% of the block width. In any event: it would have been obvious to one of ordinary skill in the art to provide the shallow cut depth with a width of 5-40% of the block width since Europe 397 teaches providing 100% or only a portion of the sipe with the deep depth to control ground contact pressure. See figures 8 and 10.

10) Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 397 (EP 333397) as applied above and in view of Yamaguchi (US 5814169).

As to claim 9, it would have been obvious to one of ordinary skill in the art to provide the shallow cut depth with a width of 5-40% of the block width since (1) Europe 397 teaches providing 100% or only a portion of the sipe with the deep depth or varying depth along the entire length to control ground contact pressure (figures 8-10) and (2) Yamaguchi et al shows both end opening sipe with varying depth as shown in figure 12(c), 12(g) as being an alternative to depth along the entire length as shown in figure 12(b).

Remarks

11) Applicant's arguments with respect to claims 1-3 and 6-9 have been considered but are moot in view of the new ground(s) of rejection.

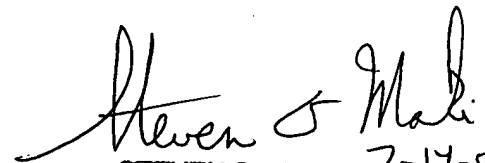
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- 12) No claim is allowed.
- 13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
July 14, 2006


STEVEN D. MAKI 7-14-06
PRIMARY EXAMINER